

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/US2004/006377

International filing date (day/month/year)  
02.03.2004

Priority date (day/month/year)  
15.04.2003

International Patent Classification (IPC) or both national classification and IPC  
B23C5/22

Applicant  
TDY INDUSTRIES, INC.

**RECEIVED**

**JUL 19 2004**

1. This opinion contains indications relating to the following items:

LAW DEPT. ATU

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2004/006377

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2004/006377

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

|                               |             |                     |
|-------------------------------|-------------|---------------------|
| Novelty (N)                   | Yes: Claims | 13,27,31            |
|                               | No: Claims  | 1-12,14-28,29,32,33 |
| Inventive step (IS)           | Yes: Claims |                     |
|                               | No: Claims  | 1-33                |
| Industrial applicability (IA) | Yes: Claims | 1-33                |
|                               | No: Claims  |                     |

2. Citations and explanations

**see separate sheet**

**Re Item V.**

- 1 The following documents are referred to in this communication:

D1: US-A-4 679 968 (HASEGAWA RYOEI ET AL) 14 July 1987 (1987-07-14)  
D2: EP-A-1 013 365 (PLANSEE TIZIT AKTIENGESELLSCHA) 28 June 2000  
(2000-06-28)  
D3: DE 42 44 316 A (KRUPP WIDIA GMBH) 30 June 1994 (1994-06-30)  
D4: US 2003/059262 A1 (MEN YURI) 27 March 2003 (2003-03-27)  
D5: US-A-6 164 878 (SATRAN AMIR ET AL) 26 December 2000 (2000-12-26)  
D6: US-A-6 017 171 (KARLSSON ROLF) 25 January 2000 (2000-01-25)

2 INDEPENDENT CLAIM 1

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.  
Document D1 discloses (the references in parenthesis applying to this document):

A cutting tool (138), comprising: at least one insert pocket (140) in the tool holder; and at least one antirotation stop (142) corresponding to said at least one insert pocket (140), wherein the antirotation stop (142) comprises at least two substantially planar surfaces.

- 2.2 The present application does also not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT with respect to Document D2 (see Fig. 3).

3 INDEPENDENT CLAIM 17

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 17 is not new in the sense of Article 33(2) PCT.  
Document D1 discloses (the references in parenthesis applying to this document):

A cutting tool (138), comprising: at least one insert pocket (140) in the tool holder; at least one antirotation stop (142) protruding from at least one of a side wall and

the bottom surface of the insert pocket (140), wherein the antirotation stop (142) comprises at least two substantially planar surfaces.

- 3.2 The present application does also not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 17 is not new in the sense of Article 33(2) PCT with respect to document D2 (see Fig. 3) and document D3 (see Fig. 1-3, 6 and col. 3, lines 40-68).

**4 INDEPENDENT CLAIM 30**

The present application does also not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 30 is not new in the sense of Article 33(2) PCT with respect to document D3 (see Fig. 1-3, 6 and col. 3, lines 40-68) and document D4 (see paragraph 101 and Fig. 4, 6 and 10). These documents clearly disclose a cutting insert provided with partially spherical recesses.

**5 INDEPENDENT CLAIM 32**

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 32 does not involve an inventive step in the sense of Article 33(3) PCT.

From the geometry of the insert seat disclosed in document D2 in Fig. 3 it is implicitly disclosed or at least obvious to the man skilled in the art to perform tangential milling in order to obtain the intended shape of side walls and of the planar surfaces of the protrusion (9) of the insert seat (cf. also document D6 and the corresponding passages cited in the search report).

**6 DEPENDENT CLAIMS 2-16, 18-29, 31 and 33**

With respect to documents D1-D6, dependent claims 2-16, 18-29, 31 and 33 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT) for the following reasons:

- 6.1 The additional subject-matter of claims 2-12, 14-16, 18-26 and 28 is disclosed by document D1.
- 6.2 The remaining claims 13, 27, 31 and 33 concern a slight constructional change in the shape of the recess cooperating with said protrusion and normal production proceeding, respectively, which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen (see e.g. document D3, Fig. 2b, 3 and 6 and col. 3, lines 40-68 and document D2 and D6, respectively). Consequently, the subject-matter of claims 13, 27, 31 and 33 also lacks an inventive step.
- 7 Although claims 1, 17, 30 and 32 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
- 8 Independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT.
- 9 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).